A COMPARISON OF THE EFFECTS OF A MODIFIED SCHOOL CALENDAR VERSUS A TRADITIONAL SCHOOL CALENDAR ON STUDENT ACHIEVEMENT

A Thesis presented to

The Faculty of the Department of Counseling and Student Affairs

Western Kentucky University

Bowling Green, Kentucky

In partial fulfillment of the requirement for the

Educational Specialist Degree

Gordon Powers

October 2005

A COMPARISON OF THE EFFECTS OF A MODIFIED SCHOOL CALENDAR VERSUS A TRADITIONAL SCHOOL CALENDAR ON STUDENT ACHIEVEMENT

August 11, 2005
Date Recommended

Director of Thesis

2/16/06
Dean, Graduate Studies and Research Date

Permission Statement

As a student of the Counseling program, I do give permission to Western Kentucky University to distribute copies of this action research project on request to interested individuals. It is my understanding that the University will not charge for the dissemination except to cover the cost of materials and handling.

Table of Contents

Permission Statement ii

Table of Contents iii

List of Charts and Tables v

Abstract vi

Chapter I: Introduction 1

Background and Rationale 1

Statement of the Problem 1

Research Question 2

Hypothesis 2

Justification of Study 3

Definition of Terms 3

Chapter II: Review of Literature 5

Introduction 5

History and Background 5

Advantages of the Modified Calendar 7

Disadvantages of the Modified Calendar 11

Modified Calendar and Achievement 14

Traditional Calendar and Achievement 17

Summary of the Findings 18

Chapter III: Methodology 24

Design of Study 24

Research of Schools 24

Procedure of Research 24

T-Test 27

Chapter IV: ... 30

Summary of Findings ... 30

Comparison I ... 31

Comparison II ... 32

T-test results. ... 32

Conclusions and Limitations ... 33

Implications. ... 36

References ... 39

Appendix A ... 45

Appendix B ... 47

Appendix C ... 49

Appendix D ... 50

Appendix E ... 51

List of Charts and Tables

Chart 1: Calendar Comparison 4

Chart 2: Summary of Research Regarding Major Advantages of YRE 20

Chart 3: Summary of Research Regarding Major Disadvantages of YRE 21

Table 1: t-Test Results 11-Year Comparison 28

Table 2: t-Test Results Four-Year Comparison 28

Table 3: Georgia High School Graduation Test Results 30

A COMPARISON OF THE EFFECTS OF A MODIFIED SCHOOL CALENDAR VERSUS A TRADITIONAL SCHOOL CALENDAR ON STUDENT ACHIEVEMENT

Gordon Powers October 2005 51 pages

Directed by: Donald Nims, Aaron Hughey, and Vernon Sheeley

Department of Counseling and Student Affairs

Many attempts at education reform have been implemented. Of all the numerous and well intended reform efforts, the most controversial may be the discussion and debate concerning the school calendar. Year-round Education (YRE), which uses a balanced or modified school calendar versus the traditional school calendar, has become an issue being fiercely debated in all 50 states. An alternative to the traditional calendar, YRE has become a more accepted solution to some of the problems recognized in the educational system. This research study was designed to investigate the impact of YRE on student achievement in a modified school and traditional school. This was accomplished using a comparison of high school graduation test scores, before and after YRE. Effects on student achievement with YRE are the main area of concern of administrators and educators. Past and recent studies were included in the review that addressed this issue. In an attempt to examine which school calendar is most effective on student achievement, two Georgia high schools with similar demographics were chosen for comparison. High school A, which has been on a modified calendar for eight years, and high school B, which has completed the first year on a modified calendar were chosen for the study because of their similar demographics. Graduation test scores over an 11 - year period were researched and used to compare student achievement before and after implementation of a modified school calendar. The test scores provided a basis for comparison of student achievement under both calendars. Finally, a t-test was used to calculate the significance of comparing test scores between the two high schools. The results of the t-test were based on the

difference between the mean of each group measured against the difference expected by chance. Findings supporting the success of modified calendars on student achievement were contradictory. Like the available literature, a definite conclusion to the success of year-round school with a modified calendar is hard to reach. This study could only indicate an increase in achievement in the first year at school B based on the increase in students passing the graduation test. The evidence is contradictory when looking at school A where the percentage of students passing the graduation test decreased once change was made to a modified calendar. The evidence cannot support which calendar is superior to improve achievement. If anything, the outcome of this study supports previous studies that could not produce a definitive relationship between school calendar and student achievement.

Chapter I

Introduction

This study focused on the debate regarding year round education (YRE), specifically the use of the modified calendar to replace the traditional school calendar. Traditional school calendars have been the norm for most school systems throughout this country. Facing problems of overcrowding, teacher/administrator burnout, low student achievement, testing mandates, and loss of learning, many school systems have abandoned the traditional school calendar for an alternative calendar. Many prefer the modified or balanced school calendar as a solution to the above mentioned issues.

Background and Rationale

The school system in which I reside and teach debated the pros and cons of alternative school calendars a year ago. There was a great deal of confusion concerning which was the optimum school calendar. The decision to adopt a modified school calendar has major impact on the students, parents, school system employees, taxpayers, and community. After consulting with all concerned parties, the school system decided to change to a modified calendar beginning the 2003-2004 school year. After a year of modified school calendar there still exists a concern whether the school system has made a good decision to change.

The purpose of the study was to examine if the modified calendar will lead to higher achievement than the traditional calendar. High school A, which has been on the modified calendar for eight years and has similar demographics to high school B (Appendix A and B), was chosen as a comparison and indicator of potential future increase in student achievement.

Statement of the Problem

In attempts to improve student achievement many school systems have balanced their school calendars through some form of YRE. Hearberlin (2001) stated that supporters of the YRE have

suggested that it is an attractive alternative to the traditional nine-month school calendar because: it provides continuous education (i.e., shorter breaks) so students do not forget material during a long summer break; the three-week breaks (intercessions) make it easier for schools to offer enrichment opportunities and remedial help for students during the school year; it improves student attendance and lessens teacher and student burnout; and parents and students have more opportunities to take vacations throughout the school year. According to the National Association of Year Round Education (NAYRE, 2001) there are over two million students in the United States who are attending school on some form of a modified calendar.

According to Naylor (1995), proponents of the traditional school calendar contend that there is no need for change. Supporters of the traditional calendar state that it is imperative to ensure its continuation because: the majority of research indicates no significant increase in student achievement associated with a modified calendar; the traditional calendar is more cost efficient and economical; the traditional calendar presents fewer scheduling conflicts with non-school activities; and the traditional calendar allows for greater teacher/staff development and continuing education. Proponents also state the traditional calendar also allows students the opportunity to experience unstructured learning activities.

Research Question

This study was guided by the following research question: Does changing from a traditional calendar to a modified calendar lead to an increase in student academic achievement?

Hypothesis

The hypothesis of this study is: Students on a modified calendar will demonstrate increased academic achievement compared with students on a traditional calendar. Based on the trend of many schools across the nation of changing to year-round school calendars, one would anticipate that a

result of this change would be an increase in student achievement. Since YRE provides a more continuous education and an increase in opportunities for remedial help, the results should demonstrate increased student achievement.

Justification of Study

The results of this study will be beneficial to students, parents, and school employees, as it will help clarify the positive and negative aspects of different school modified calendars. Because Georgia public high schools are evaluated by Georgia High School Graduation Test scores (GHSGT), it is imperative to understand the effect the school calendar will have on student achievement as measured by the test. The results of the study will be useful to school B and the school system concerning the modified calendar and its impact on increasing student achievement.

Definition of Terms

Modified School Calendar: There are many variations of school calendars. For the purpose of this paper a modified school calendar is defined as a single-track YRE (Appendix C).

YRE: Provides a balanced calendar for a more continuous period of instruction. The calendar is divided into equal periods of instruction separated by short vacation periods placed throughout the school year including a shorter eight-week summer vacation.

Intercessions: Scheduled periods during vacation days that allow time for remediation and enrichment throughout the year.

Traditional Calendar: 190 teacher days, 180 student days, no fall break, 10-12 day winter break, 11-week summer break. A comparison chart follows:

Chart 1 Calendar Comparison

Traditional Calendar	45/15 Modified Calendar	45/10 Modified Calendar
190 Teacher Days	190 Teacher Days	190 Teacher Days
180 Teacher Days	180 Teacher Days	180 Teacher Days
No Fall Break	15-Day Fall Break	10-Day Fall Break
10-Day Winter Break	15-Day Winter Break	10-Day Winter Break
5-Day Spring Break	15-Day Spring Break	10-Day Spring Break
10-Week Summer Break	5-Week Summer Break	7-8 Week Summer Break

Also see a comparison of the calendars (Appendix E).

Chapter II: Review of Literature

Introduction

A review of literature was conducted in an attempt to determine if past research had revealed any relationship between school calendars and student achievement. Many variations of school calendars were reviewed including the traditional and modified calendars. Data and publications were analyzed to determine what research indicated as the most effective school calendar.

There are five sections to the review of literature, followed by a summary of the findings. First presented is literature that examines the history and background of school calendars. The next two sections deal with the advantages and disadvantages of modified calendar versus the traditional calendar. Finally, a review of literature supporting increased student achievement on the modified calendar is followed by evidence of increased student achievement on the traditional calendar.

History and Background

The development of our educational system was formulated to benefit an agrarian society. At one point in time, farming was the primary source of income for families. Students were required to help on the farm, planting and harvesting crops. School calendars were designed to accommodate the farming season, which was typically June, July, and August. The farming population in America, however, suffered a drastic decline (Huitt, 1995), leaving the agrarian school calendar obsolete. This major change in workforce did not include a subsequent change in the school calendar; therefore, students remained on the traditional calendar.

While the majority of schools remained on a traditional calendar, there were some early attempts to incorporate a more balanced calendar. According to Glines (1987), YRE surfaced in this country as early as the turn of the 20th century. Renowned for his work and vision in public school

systems, William Wirt was credited with founding the first year-round school program in 1904 in Bluffton, Indiana. Other important contributors to this movement included Superintendent Addison Poland of New Jersey and Superintendent Harold Weber of Tennessee. Very similar to the Bluffton design, Poland introduced a year-round K-12 program as well as English classes for European immigrants that remained in effect from 1912 to 1931 (Glines, 1987). Weber's goal was to improve the quality of education, and he implemented a non-graded, summer program that would provide continuous learning for any interested student. Due to their voluntary nature, these programs did not set the standard for future American school systems. Few, if any, pioneering year-round schools were in operation at the onset of the Second World War (Serifs, 1990).

In 1992, YRE had been implemented in 1,668 public and private schools in 23 states (Bradford, 1991). Research (e.g., Ritter, 1992; Serifs, 1990; Weaver, 1992) documented the reasons for implementing YRE in present school systems. A desire to improve student learning and lack of classroom space because of a growing population prompted the second onset of year-round school.

In the last decade, the number of modified school calendars has increased. By 1999 over two million students were enrolled in the more than 2,900 year- round programs in the United States. Interests in alternative school calendars continue to grow as more school districts explore ways to manage increasing enrollments and improve student achievement (Alternative Calendars, 1999).

The debate over the most beneficial school calendar is only in the initial stage. There have been ongoing and intensive efforts for and against modifying school calendars. No matter what schedule schools choose, the biggest resistance to YRE comes from the expectation of a year's change (Rasmussen, 2000).

Advantages of the Modified Calendar

YRE in the post-World War II era began as a way to handle overcrowding without the construction of new school buildings (Howell, 1988). According to Howell (1988), in some situations, it has evolved into a viable educational plan to meet the needs of students and community. Studies have demonstrated the benefits of YRE. In a study by Greenfield (1994), teachers and parents were surveyed and asked to cite advantages and disadvantages from their experiences with the YRE approach. Teachers cited advantages as more salary potential, frequent breaks, varied educational opportunities, and flexible work year. Parents listed advantages of YRE that included more opportunities for education, decreased need for summer childcare, opportunities for additional student remediation, and enrichment through intercession classes. Greenfield also found the YRE approach was considered by the school and community to be very positive.

O'Dell's (1997) study cited seven advantages for the YRE approach. They include:

1. Students return to school happy, eager, and rested after intersession.
2. Tensions were reported to dissipate during intercession periods between students, teachers and students, parents and teachers, and the principal and parents.
3. Principals noted that there was less learning loss over summer months, less shut down and start up time for students, and that programs for exceptional children excelled.
4. Intercession provides for an additional four or five weeks of instruction that may be beneficial for language immersion programs and for immigrant children.
5. Teachers return rested and happy after intercessions.
6. Teachers view intercession as an opportunity to provide student enrichment activities as well as remediation.
7. When using a 45/15 single track YRE approach, the nine-week grading period was seen

as a beginning and stopping place fostering pacing and progress.

Glass (1992) proposed that the greatest advantage of YRE for most school districts is the avoidance of new school construction by increasing enrollment at existing schools but suggested that the advantages of YRE can theoretically extend beyond a district's financial constraints. Students may retain more over shorter vacations; thus, they may need less review at the beginning of a school year than their traditional calendar school counterparts. Some families might enjoy opportunities for vacations in all four seasons, winter, spring, summer, and fall due to the frequent breaks by the YRE approach.

Bray and Roellke (1998) listed four advantages typically associated with YRE. They include:

1. The efficient use of resources.
2. Alleviation of overcrowding.
3. Curricular flexibility and continuity.
4. Improved academic student outcomes.

Several studies reported other advantages of YRE. Schools can offer intercession programs where students participate in advanced, remedial, and enrichment classes (Heaberlin, 2001; White, 1985). Teachers can work during the intercessions and earn more money (Ballinger, Kirschenbaum, & Poinbeauf, 1987).

Because of increased frequency of breaks, teachers and students are less likely to suffer burnout and be absent in a school employing the YRE approach. Teachers viewed the primary strengths of YRE in Atwood's study (1983) as increased continuity of instructional programs, improved teacher morale, opportunities for productive use of intercessions, improved student behavior, and more sustained contact with parents.

Saucedo (1996) reported 14 advantages of a YRE multi-track elementary school approach in

the Gadsden Independent School District in Texas. The advantages at Berino Elementary School included:

1. New learning and enrichment opportunities for students during intercessions.
2. Creating small learning environments.
3. Greater student academic retention.
4. Improved student academic performance.
5. Less student boredom.
6. Improved staff development opportunities for teachers.
7. Less time spent on review and re-teaching.
8. Teacher salary enhancement opportunities.
9. Extra pay for teachers through substituting during off-time.
10. Flexibility in vacation planning for teachers and parents.
11. Renewal every nine weeks for teachers and students.
12. Greater teacher morale.
13. Relieve overcrowding without increasing bonded indebtedness.
14. Reduction in per pupil cost.

Proponents of the YRE approach have stated that it has many social benefits. For example, school vandalism, student dropout rates, and student's disciplinary problems have been shown to decrease with the YRE approach (Ballinger, 1995; Brekke, 1985; Gifford, 1987; Oxnard School District, 1990; White, 1987).

Glines (1987) presented eight reasons summarizing the advantages of YRE. According to Glines, these advantages were used as a basis for further justification of a YRE calendar change that

can be tailored to fit personal needs and preferences of family units. They include:

1. Continuous Learning - Schools are like hospitals; they are helping institutions. Their doors should never be closed, with on-campus sites available for constant learning.

2. Employment Realities — Many workers cannot take summer vacation. Parents appreciate non-summer periods for time with their children. Teachers can have extended contracts with extra earning through intercession employment and substitute teaching.

3. Lifestyle Diversities - The concept of YRE can create different vacation plans that help to combine employment and lifestyle preferences. Families can take vacation at different times of the year and benefit from both on- and off-season vacation opportunities.

4. Curriculum Facilities — Overcrowded schools can create more space with the use of a multi-track plan, creating a reduction in on-site attendance during learning blocks and three-week vacation blocks because one group is always on vacation. Full, but not overcrowded, sites can reduce the load on special facilities such as gyms, cafeterias, and libraries and create several empty classrooms at no cost to convert them to improved curriculum facilities (e.g., science laboratories, music facilities).

5. Improvement Catalyst – The concept of YRE can be used as a catalyst for restructuring, thus providing an opportunity for change and innovation.

6. Community Enhancement - Park and recreation programs, 12-month swimming lessons, year-round Bible schools, reduced highway congestion, less summer pressure on the police force, ongoing volunteers for health and social agencies, continuous help for limited English speaking and special education youth, a greater potential for reducing the dropout rate and for increasing student skills and knowledgeable levels, and providing the

opportunity for gifted students to pursue additional learning in specific areas of interest, are potential areas for enhancement.

7. People Considerations - YRE offers a continuous home role model by providing breakfast, lunch, and snacks for a significant number of low-income children. Intercessions can offer a time to address health and emotional as well as educational needs. Parents who work summers can take off-peak work periods to be with their child.

8. Personal Choices — Wherever possible, YRE and nine-month learning should be offered as options in some communities as many people cannot take or do not want a long summer vacation.

Ballinger (1999) listed seven educational values of the YRE approach. They include:

1. More continuous instruction leading to more continuous learning
2. Less learning loss
3. Quicker diagnosis and intervention of student learning problems
4. Higher student attendance
5. Higher teacher attendance and fewer substitute days
6. Few dropouts
7. Reduced in-school vandalism

Disadvantages of the Modified Calendar

According to Howell (1988), YRE has been tried and abandoned in some school systems. For these schools, no advantage existed in instruction or student achievement; student remediation, student attendance, and student vandalism were not school-wide problems; and once student growth leveled off or new school buildings were constructed, the community and school administration saw no advantage in remaining with the YRE approach.

Glass (1992) reported that critics of YRE cite several disadvantages to YRE in defending the traditional school calendar. They contended that operating costs may rise, administrative workloads might increase, district service, such as special education and teacher workshops may be difficult to schedule; family life might be disrupted; childcare and vacation plans become complicated; children might be bored during vacations because traditional options like summer camps and sports programs are often not available. Greenfield (1994) listed teacher disadvantages as being lack of preparation time, increased workload, and conflicting vacations for family in YRE multi-track approaches.

O'Dell (1997) surveyed principals involved in a school-within-a-school YRE approach. Respondents to her survey had negative views of this YRE approach. Their concerns were the following:

1. Highly detrimental to entire school program
2. Problems occur in running a dual calendar smoothly and efficiently
3. Nightmare in middle school
4. Recommend schools offering year-round option be total year-round.
5. Difficult to maintain a sense of cohesiveness with staff
6. No significant increase in achievement
7. Opening and closing school twice during the year is difficult.
8. Staff development is often planned in favor of traditional calendar teachers.
9. Parents choose year-round to pick teachers causing uneven racial and gender balance in classes.
10. Causes administrative burnout with no assistant principal or year-round coordinator present
11. Causes more combination classes resulting in students being in the same class for

more than two years

12. Hard to staff because teacher does not want it

13. Maintenance on the building is a problem with no time available during the summer for heavy cleaning.

Weaver (1992) cited four possible disadvantages of a YRE approach for teachers, students, and parents. They included: 1) disruption of traditional summer activities; 2) siblings with different calendar schedules; 3) problems in finding off-season childcare; and 4) problems for teachers in continuing their own education by taking university courses during a short summer period.

Saucedo (1996) identified eleven variables as disadvantages in the implementation of YRE multi-track approach at Berino Elementary School in the Gadsden Independent School District in Texas. They include:

1. Resistance to change
2. Teachers pursing additional degrees or certification
3. Keeping families together on the same calendar
4. Increased work load for administrators and office staff
5. Adjusting administrative planning time
6. Building maintenance
7. What to do with children when off-track at non-traditional times
8. Physical education during hot months
9. Having supplies and material available in July
10. Adjusting payroll periods when teachers report in July
11. Track changes during the year for students and personnel

Modified Calendar and Achievement

There were numerous studies cited in literature concerning the consequences of a change in school calendar and student test scores. A study (Abney, 2004) based on more than 2,000 completed surveys and feedback from several focus groups in Floyd County Georgia, indicated the extended calendar improved test scores, boosted morale, and kept students fresher. According to Mutchler (1993), the San Diego (California) Unified School District compared test scores on the Comprehensive Test of Basic Skills (CTBS) and the California Assessment Program (CAP) from 1982 through 1990, and found significant differences in the percentage of year-round schools that maintained or improved student scores compared to the results for traditional schools.

Another study involving a summary of six, matched, year-round and traditional school-calendar schools in a West Coast district produced support for year-round school. After four years, the year-round programs produced acceptable academic growth in students, compared to controls (Kneese, 2000). According to Kneese (2000), gains were higher for math than reading and slowed after several years. A review of 39 studies by Cooper, Carlton, Greathouse, Lindsey, & Nye (1996) indicated that student achievement test scores decline over the traditional summer vacation. The study demonstrated the following results:

1. The loss in achievement test scores equals about one month on a grade level equivalent scale or one-tenth of a standard deviation relative to spring test scores.
2. The effect of summer break is more detrimental for math than for reading, and most detrimental for math computation and spelling.
3. The summer break has equal negative effects on the math skills of students from middle and lower socioeconomic families, but greater negative effects on the reading skills of lower socioeconomic families.

Roby (1992) reported statistically significant results in favor of YRE students in a West Carrollton, Ohio study. YRE students out-performed their traditional calendar counterparts in both reading and math on the Iowa Test of Basic Skills. This study compared sixth-grade students on a 45/12 single track YRE approach to students on a traditional calendar. According to Cooper, Carlton, Valentine, & Muhlenbruck (2000), modified school calendars may have a small impact on student achievement and a more noticeable impact on the achievement of disadvantaged children, but the existing research design contains flaws that render conclusions tentative at best.

Children learn best when instruction is continuous; the long break affects special needs students, such as those learning English as a second language or those with disabilities (Gold, 2002). Gold also found higher social economic students often return from summer break with a considerable advantage because of resources available to their families to enrich their education over the summer vacation.

Six (1993) conducted a review of 13 post-1985 studies for the National Association for Year-Round Education (NAYRE). In seven of the 13 studies, YRE students achieved at significantly higher rates than the traditional calendar students. Among the studies reviewed by Six (1993) was a study of schools in Chula Vista, California, which ran for five years. The findings of the study indicated a higher percentage of YRE students maintained or improved scores between 1985 and 1990 as compared to students in traditional schools.

In a longitudinal study conducted in the Sweetwater Union School District in San Diego County in California, Chen (1993) compared high school test scores over a 10-year period from 1984 to 1993. The subjects were from Sweetwater High School, which employed a 45/15 single-track YRE approach (experimental group) and Southwest High School, which used a traditional calendar approach (control group) in the district. Data collected in the study were students' scores on the

Comprehensive Test of Basic Skills (CTBS), the Stanford Achievement Test, the Scholastic Aptitude Test (SAT), and the California Assessment Program test (CAP). The students who took those tests from the two high schools had similar socioeconomic and cultural backgrounds.

Chen (1993) stated that the comparison of students' test scores on the four tests yielded the following results: 1) one year after adopting the YRE approach, Sweetwater High School's CTBS mean scores were statistically significantly higher ($p<02$) than those of Southwest High School; 2) on the CAP and SAT, the mean scores were not significantly different between the two schools; and 3) on the Stanford Achievement Test, the mean score of Sweetwater High School was significantly lower ($p<.001$) than Southwest High School at the first year when this test was used in 1991. In Chen's study (1993), by the third year using tests to compare the two schools, Sweetwater High School's scores surpassed those of Southwest High School's although the results were not statistically significant. The CTBS and CAP test scores and percentage of increase after adopting the YRE approach for students at Sweetwater High School were higher than before the YRE approach was implemented.

A study by Ritter (1992) was conducted with two groups of gifted and talented sixth-grade math classes. One group attended a traditional school and one attended a YRE school. At the mid-term the traditional students' scores were higher. The YRE students' scores stayed more constant suggesting that a more steady learning process was occurring with the YRE calendar. The study showed that the gifted students learned well in both environments, but the level of learning was more consistent with the YRE calendar. While there were gains, Ritter stated that there was no statistically significant difference in the overall achievement of the gifted and talented YRE students as compared to the traditional school students.

Traditional Calendar and Achievement

One myth in question was that modifying the calendar improved test scores. To the contrary, advocates for traditional calendar state this myth was not substantiated. No scoring advantage was found in Dallas, Texas, for students who started school as much as three weeks earlier than others, according to the newspaper, the Austin American-Statesman (Bussard, 2002). Neither did reports show testing advantages in scores in Broward County, Florida (Bussard, 2002). Also Bussard (2002) discovered a school committee in Ohio spent a year researching the effects of a longer school year and reported no correlation between the amount of time students were in school and test scores.

In six Alabama School Districts on a year-round calendar for four or more years, according to the Alabama State Department of Education (2001) collection of research, the test scores showed a decline in reading, math, and SAT totals over a three-year period.

According to Cooper, Charlton, Greathouse, Lindsay, & Nye (1996) the news reported that the earlier a school started did not deliver on the promised performance improvement as anticipated by going to a year-round calendar in parts of Colorado. Reading and writing scores in grades three and five fell between 1998 and 2000. Six schools that remained on the traditional calendar actually outperformed five other schools that started earlier in 1999.

Merino (1983) found that out of nine studies conducted on achievement in year-round schools, only three favored YRE, and two of those three studied schools that had increased the number of instructional days for disadvantaged students. Merino also found two studies indicated that YRE lowered achievement, but overall, research revealed no significant differences between the two types of schedules. Mazzarella (1984), in trying to explain these types of results, pointed out that changing calendars and schedules would not improve achievement until educators learn to use existing schedules more effectively.

Assumption of general academic learning loss, experienced over the longer summer vacations of traditional calendar, is another myth. This assumption appeared unwarranted. Wintre (1986) claimed that academic changes over the summer appeared to be differentially affected by both content and grade level. Newland (1998) declared the difference in the amount of forgetting after four weeks or twelve were not significant, especially when it was recognized that some of the information had been taught almost a year earlier in the previous fall. Newland offered that a year-round calendar, with its multiple, three-week breaks, offered more opportunity for students to forget what they have learned.

Yates (2001) stated he could not find any research to support claims that a continuous learning calendar was superior to the traditional one. He substantiates that learning loss probably occurs in the first few weeks of summer. From that point of view, the continuous learning calendar might actually result in more cumulative loss of skills than that of the traditional calendar. Research studies performed over the last 100 years have consistently shown that most forgetting takes place in the first four to seven days after the material is taught (Morgan, 1993). Morgan (1993) further stated that after the first week the rate of forgetting tapers off and there is little difference between week two and week 10.

Summary of the Findings

The summary of the literature concludes that there is no long-term evidence to support the purported theory that year-round school with a modified calendar increases student achievement to a greater degree than the traditional calendar. Some data results did indicate that year-round school had slight differential effects on some subgroups, particularly slow and/or disadvantaged learners. While researching the data regarding the comparisons of the two calendar types, so much information appeared that it created an almost impossible task to report on all of

the results of documentation showing the comparison of test scores and academic achievement among students.

Supporters of the YRE and modified calendars and their studies have suggested that the new calendar is an attractive alternative to the traditional nine-month school calendar. They conclude that more continuous education cuts down on the loss of retention over long summer breaks for students. A favorite of YRE supporters is the three-week breaks (intercessions) that make it easier for schools to offer enrichment opportunities and remedial help for students (Ballinger, 1999).

A total of 10 studies over the previous decade were reviewed on the advantages of YRE and the modified calendar including eight pertaining directly to student achievement while two were linked indirectly to student achievement under a modified calendar. Although the authors individually identified several advantages in their studies, four outcomes were consistent in the majority of the finds (e.g., documented increase in student achievement, productive intercessions, improved teacher morale, and higher student attendance).

A summary of the outcomes in chart format follows:

Chart 2

Summary of Research Regarding Major Advantages of Year-Round Education				
Study	Achievement	Intercessions	Teacher Morale	Attendance
Abney (2004)	X		X	
Howell (1988)	X			
NAYRE (2004)	X	X	X	X
Cooper (2000)	X			
Kneese (2000)	X			
Ballinger (1999)	X	X	X	X
Bray and Roellke (1998)	X			
O'Dell (1997)	X	X	X	
Saucedo (1996)	X	X	X	X
Glines (1987)	X	X	X	

Seven studies were reviewed on the disadvantages of YRE and the modified calendar. The authors identified several aspects that were consistent in the majority of their studies. They are: achievement, childcare, teacher education, schedules, and budget restraints. Five of the seven authors found that education was a disadvantage of YRE. Two authors considered student achievement to be a major disadvantage of YRE. A summary of the outcomes in chart format follows:

Chart 3

Summary of Research Regarding Major Disadvantages of Year-Round Education						
Study	Achievement	Childcare	Teacher	Education	Schedules	Budget
AL Dept. of Ed. (2002)	X					
Bussard (2002)	X					
O'Dell (1997)				X	X	X
Saucedo (1996)		X		X	X	X
Greenfield (1994)				X		
Glass (1992)		X		X		
Weaver (1992)			X	X	X	X

Proponents of the traditional school calendar contend that there was no need for change (Bussard, 2002). Supporters and the majority of their research indicate no significant increase in student achievement associated with a modified calendar contrary to studies done by student achievement associated with a modified calendar. Contrary to studies done by supporters of YRE, traditional calendar research provides evidence the traditional calendar is more cost efficient and economical; the traditional calendar presents fewer scheduling conflicts with extra curricular activities; the traditional calendar allows for greater teacher/staff development and continuing education (Weaver, 1992). The literature supporting both school calendars, the modified and the traditional, proves there is still an ongoing debate over which calendar provides an advantage for student achievement. In two studies an in-house comparison was done to compare student achievement on a traditional calendar with that after changing to a modified calendar. Both studies, one in Alabama and another in Texas, showed no advantage in student achievement after switching to a modified calendar. This study is unique because it involves a direct comparison between two similar secondary schools that have made the change

from a traditional calendar to a year-round modified calendar. There is a need to collect data and perform statistical research focused on comparing standardized test scores in at least two secondary schools that have gone from a traditional to modified calendar. Additionally, this study attempts to determine a future prediction for the success of school B, which has just started using a modified calendar, by comparing the data from school A, which has been on a modified calendar for eight years. The majority of previous research tends to focus on either elementary school data or in-house studies that compare student academic achievement before and after implementing a modified calendar.

Although the increased achievement is touted as a benefit of year-round school, the results of the literature review and student achievement scores suggest that the merits of year-round education might be best judged on factors other than student achievement. McMillen (2001) found some statistically significant interactions indicating students may benefit more from a year-round calendar, but these effects are probably too small to be educationally significant by most standards. McMillan also found other circumstances, such as potential cost savings and stakeholder preferences, which vary from location to location, may provide a more reasonable basis for decisions about whether to keep or to adopt year-round calendars.

It is also interesting to note the support given each respective grassroots organization supporting its choice of the appropriate calendar. The year-round calendar supporters were clearly numerous and vocal advocates. As was evidenced by a survey of the literature about the effects on year-round school and modified school calendar, there is a lack of data to support that a school calendar makes little if any difference in student achievement. The literature seemed to support the theory that choice of school calendar was not a major determining variable with respect to student achievement. The choice of calendar may influence other factors such as school attendance, teacher

and student morale, teacher education, budget issues, and remediation, which in turn affect student achievement evidenced by an improvement of test scores.

Chapter III: Methodology

Design of Study

The purpose and design of the study was to examine if a modified school calendar was more effective in increasing student achievement than the traditional school calendar. The collection and analysis of data was an attempt to provide evidence to either support or refute the purpose of this study. The methods were guided by the following question: Does changing from a traditional calendar to a modified calendar lead to an increase in student academic achievement?

The procedures used in the study were grouped into two concise areas. A comparison of local student achievement under each calendar was done in order to provide statistical data to be analyzed. Secondly, a t-test was used to measure any statistically significant difference when comparing data between the two high schools.

Research of Schools

The research was based on existing databases concerning the two specific school calendar options and the Georgia High School Graduation Test (GHSGT). Student graduation test score averages were analyzed to compare school systems now using the modified calendar to their score averages on the traditional calendar.

Procedure of Research

In order to test the effect of school calendar on student achievement two test groups (schools) were needed for comparison. Since there are many variables that can contribute to student achievement both schools needed to have similarities. The similarities included but are not limited to the demographics, state school system, and method of testing student achievement. Model High School and Trion City High School

appeared to have several of these controls in common. Further research into both was necessary.

Data pertaining to Georgia High School demographics is located on the Georgia Department of Education (2004) website (http://reportcard.gaosa.org). Here was found a detailed breakdown of the demographics of school A and school B. School enrollment numbers including race/ethnicity and gender were analyzed and compared. In addition, a comparison of the socioeconomic population was done by comparing the number and percentage of students on free lunch at each school. School B is a rural school just outside of Rome, Georgia. School A is also a rural school just 35 miles north of school B in a small community of Georgia. The history of both schools goes back to their beginnings as textile mill community schools in the early 1900. Today many of the students at both schools have parents employed at the carpet and cotton mills.

School A had a 2001-2002 enrollment of 335 students. There were 164 males and 171 females. Broken down by race/ethnicity, school A is approximately 97% white, 1% black, 1% Asian, 1% Hispanic and 1% multiracial. Of the total population, 13% of the students are eligible for free or reduced lunches. In comparison, school B had a 2001-2002 enrollment of 549 students. There were 281 males and 268 females. Furthermore, school B is 91.3% white, 6% black, 1% Asian, 1% Hispanic, 1% Native American, and 14.8% of all students are eligible to receive free or reduced lunches (Georgia State Department of Education, 2004).

Since most all school districts test somewhat differently, a common method of standardized test for judging or scoring student achievement at each school was necessary. The results of the Georgia High School Graduation Test were used because the

same test is administered at every secondary school. These results were available at both school A and school B and also on the Georgia Education Report Card published by the state department of education.

Yearly, all Georgia eleventh graders must take the Georgia High School Graduation Exam. They must pass the exam in order to graduate with a technical preparatory or college preparatory diploma. Although additional opportunities are given for a re-take for those students who do not pass the exam, for the purpose of this study the data is based on the scores of first-time test takers in school A and school B (Appendix D).

Next, two comparisons were made of graduation test scores. The first comparison involved test scores from 1993 through 2004. The second and more valid comparison used test scores the three previous years before the modified calendar and the year after implementing the modified calendar.

In the first comparison (I), the mean of each school's scores for the 11 years was calculated and compared. Then the scores of each school while using a traditional calendar were compared to their scores after changing to a modified year-round calendar. A comparison was done between A's scores under a modified calendar to that of school B's first year under a modified calendar, to possibly predict future outcomes at school B. The student test scores analysis is used to determine if school A's eight-year record on a modified calendar can predict school B's future student achievement on the modified calendar.

A second and more valid comparison (II) compared the mean of each school's scores for four years, three before modified and one on a modified calendar. Again the

scores of each school while using a traditional calendar were compared to their scores after changing to a modified year-round calendar. Student test scores were analyzed to determine if school A's first year on a modified calendar can predict school B's potential future.

T-test

When making a prediction or conclusion from the statistics of two groups a degree of certainty is important. Inferential statistics can be used in situations such as this to determine the probability of an outcome. This is important when a small sample is used as a predictor of a larger sample (Kirkman, 2004). When making a decision or a conclusion based on statistical references between two populations such as school A and school B students, a degree of certainty is a necessity. In the Simple Interactive Statistical Analysis (SISA) 2004, a rational decision is characterized by the use of a procedure, which insures a change in one that is associated with change in another. In reference to this study, can the scores at school A while on a modified calendar help predict that school B will have similar changes in the future on the same school calendar?

The t-test was considered appropriate in this case because a t-test is the most common method of evaluating the difference in the mean of two groups (Campbell, 1997). According to Campbell (1997) the t-test is also usually used when the sample sizes are small such as the testing groups from these two schools. When using a t-test there is a "p" which is the probability of error. This means that the hypothesis or problem statement could be considered null or not true if the probability of error showed that there was no difference in the means of the two groups.

In both comparisons a t-test was calculated to determine if the two means, from school A and school B, were significantly different. The distance between the means of both groups was measured against the difference by chance. The degree of certainty that school B will have the same results as school A over the next several years is important to the outcome of the study. The results of a paired t-test for both comparisons follow:

Table 1

t-Test Results 11-Year Comparison

	School A (Group A)	School B (Group B)	(Group A-B)
Mean	78.8	76.7	2.09
Standard Deviation	8.61	7.18	10.1
Median	75.0	74.0	2.0
Confidence Interval	95%	95%	95%

t = 0.689

Degrees of Freedom = 10

Table 2

t-Test Results 4-Year Comparison

	School A (Group A)	School B (Group B)	(Group A-B)
Mean	83.5	74.2	9.25
Standard Deviation	11.0	7.14	17.7
Median	89.0	73.0	16.0
Confidence Interval	95%	95%	95%

t = 1.04

Degrees of Freedom = 3

After evaluating the demographic study, GHSGT score analysis, and both t-tests the process of a detailed interpretation and conclusion of the study was completed. This information is found in Chapter IV.

Chapter IV

Summary of Findings

This research study was designed to determine the impact of YRE with a modified calendar on student achievement. A comparison of Georgia High School Graduation Test scores under a traditional school calendar was conducted for both school A and school B. Specifically, a comparison of school A's graduation test scores while on the modified calendar was compared to graduation test scores before switching to the modified calendar in 1996. The same was done for school B which has only been on the modified calendar one year, 2003-2004. Since both school systems are similar in demographics, a predictable outcome of school B's modified calendar can be possibly obtained from the graduation test scores in school A. The scores of eleventh graders passing all components of the test was analyzed for 11 consecutive school years beginning with the 1993-1994 year and ending in the 2003-2004 school year. The results are certified scores provided by the Georgia Department of Education.

Table 3: Georgia High School Graduation Tests Results

Percentage of 11th-Grade First Time Test Takers Passing All Components of the Test

Year	School A	School B
2003-2004	85	84
2002-2003	73	74
2001-2002	85	67
2000-2001	69	72
1999-2000	72	81
1998-1999	74	72

1997-1998	75	67
1996-1997	67	84
1995-1996	89	73
1994-1995	89	85
1993-1994	89	85

The scores of each school when on a traditional calendar were compared with scores after changing to a modified calendar. See t-test results Chapter III Chart 4.

Comparison I

School A's 11- year graduation test score mean was 78, which represents the average percentage of students passing the test. Prior to changing to the modified calendar in the 1996-1997 school year, school A had 89% of the test takers passing the exam each year. The mean representing the first three years of graduation testing was 89%. This is 11 percentage points above the mean for the cumulative 11 years on the modified calendar revealing a mean of 75%. A direct comparison of mean scores on a traditional calendar to that with a modified calendar shows a difference of 14%. This decrease in scores after changing to a modified calendar is statistically significant for school A. Ironically, school A's lowest percentage of students passing the graduation test occurred on the inaugural year (1996-1997) of the modified calendar. Only 67% passed the test that year.

School B's percentage of students passing the test over the previous 11 years has a calculated mean of 76%. Under the direction of the school board, school B adopted the modified calendar for the 2003-2004 school year. Unlike school A, the data showed a substantial increase in the students passing the test in this initial year of modified

calendar. The score of 85% passing is 11 percentage points above the mean for the entire 11 years and is 10 percentage points higher than the previous year under a traditional calendar.

Comparison II

School A's four year graduation (1993-1996) test score mean was 83.5. The three years prior to changing to the modified calendar in 1996 school A had 89% of the test takers passing the exam each year. This is 22 percentage points higher than the first year that school A implemented the modified calendar in which 67 % passed the exam. This is significant considering the change in calendar was to increase student achievement.

School B's four year graduation (2000-2003) test score mean was 74.2. Prior to changing to the modified calendar school B had 72%, 67%, and 74% of students passing the exam the three years leading up to the modified calendar. The percentage jumped to 84% the first year on the modified calendar. These results, different than school A, show there was a significant change the first year of implementing a modified calendar.

T-test Results

When making a decision or a conclusion based on statistical inferences between two populations such as school A students and school B students, a degree of certainty is necessary. A rational decision is characterized by the use of a procedure which insures a change in one thing is associated with change in another. In reference to this study, can changing to a modified calendar increase the graduation test scores obtained during a traditional calendar for both schools?

A t-test was performed to determine the degree of significance between the scores of both populations. The t-test was completed to determine whether the two means, from

school A and school B are significantly different. The distance between the mean of each group is measured against the difference expected by chance.

In comparing all 11 years, the t-score of 0.689 with a probability of 0.506 was based on the null hypothesis; modified school calendar had nothing to do with the percentage of students passing the graduation test. It is customary to say that if the probability of the difference between the two means is less than 0.05, that the difference is significant, not caused by chance (SISA, 2004). Since the probability of the t-test between the scores of the two schools is 0.506, it can be assumed the difference is not significant and could be caused by chance. According to the t-test results, using 11years of comparison, there is no significant difference between the scores of school A and school B.

In the second comparison, only the three years before and the first year each school was on a modified calendar was used in the t-test. A t-score of 1.04 with a probability of 0.374 was scored based on the same null hypothesis; modified school calendar had nothing to do with the percentage of students passing the graduation test. The probability of 0.374, which is lower than the probability using the 11 year comparison, is not low enough to show there is significant difference between the scores of both schools.

Conclusions and Limitations

Many schools and school systems have implemented some type of year-round calendar in hopes to ensure educational reform. Supporters of the YRE and modified calendars and their studies have suggested that the new calendar is an attractive alternative to the traditional nine-month school calendar (NAYRE, 2001). They

concluded that more continuous education cuts down on the loss of retention over long summer breaks for students. A favorite of YRE supporters is the three-week breaks (intercessions) which make it easier for schools to offer enrichment opportunities and remedial help for students.

Proponents of the traditional calendar contend that there is no need for change. Supporters and the majority of their research indicate no significant increase in student achievement associated with a modified calendar. Contrary to studies done by supporters of YRE, traditional calendar research provides evidence the traditional calendar is more cost efficient and economical; the traditional calendar allows for greater teacher/staff development and continuing education. Conclusions on student achievement state the traditional calendar also allows students the opportunity for in-depth explorations or remediation. This experience is evidence of increased learning.

A more important question that needs to be answered from previous research is a question of achievement. For schools that implemented a modified calendar in order to increase student achievement; did the research data/numbers support an increased student achievement with a modified calendar?

Previous studies, especially those done by schools on or wishing to go to a modified calendar, provided somewhat subjective evidence that the calendar had a positive impact on education. More evidence backed by statistics is needed before a concrete conclusion could be made on the effect of school calendar. In most of the research, using case studies on the statistical data was insignificant or practical. There is a need to collect data and perform statistical research focused on comparing standardized test scores in at least two schools that have gone from a traditional to modified calendar.

The outcome of YRE with a modified calendar is lacking in statistical data comparing standardized test scores with those on a traditional calendar. The purpose of this study was to perform that comparison.

Findings pertaining to the success of the modified calendar on student achievement were inconclusive in the study. Like the available literature, a definite conclusion to the success of year-round school with a modified calendar is hard to reach. Based on school A, the modified calendar has not produced an increase in student academic achievement. This study could only indicate an increase in achievement in the first year at school B based on the increase in students passing the graduation test. School B could possibly claim the modified calendar played a major role in raising student achievement based on graduation test scores. The evidence is contradictory when looking at school A where the percentage of students passing the graduation test decreased once change was made to a modified calendar. The school A data could have one believe that the modified calendar does not increase achievement, but actually could be detrimental to student achievement.

Implementation of a modified calendar is just one of many efforts used to improve the quality of education. As evidenced by the graduation test data, it is difficult to isolate a single factor in causing an increase in student achievement.

The list of other factors that may influence student achievement include but are not limited to the following:

1. Diverse Student Populations – Schools have students who come from different backgrounds that may either promote or hinder educational growth. Family life and parental influence can form the foundations needed to achieve.

2. Difference in Teachers – The faculty of teachers from one school when compared to another may be stronger and each teacher inside an individual school may possess more ability and/or training than their colleagues in changing to a modified calendar.
3. Facilities – School facilities may enhance the learning process by providing a better atmosphere and an increase in curriculum opportunities (science laboratories, libraries, fine arts facilities, or available technology).
4. Discipline – Disruptions during the school day can slow the learning process and distract from the tests at hand.
5. Attendance – Students have a harder time learning when missing days from school. Being in attendance begins the opportunity for the student to learn.
6. Daily Class Schedule – Length and number of class meetings can provide different opportunities for learning.

This study and future studies will be limited to the fact that a single factor cannot be targeted as a major influence in increasing student achievement. The evidence exists that a multitude of educational practices play a part in student achievement. Though found inconclusive by this study, YRE with a modified calendar may be only a fraction of the changes in education that are intended to improve student achievement.

Implications

It is evident through this study there still exists a great deal of confusion concerning which is the optimum school calendar. The decision to adopt a modified school calendar has a major impact on students, parents, school system employees, taxpayers, and the community.

Many school systems are forced to make changes in order to comply with the No Child Left Behind Act which was passed by Congress in 2001 and approved by President Bush. Student achievement must increase yearly to show the school is making annual progress to avoid sanctions. Many educators are struggling to find ways to improve student performance on standardized tests which serve as the baseline for judging student academic progress. Many schools and school systems are looking at the school calendar and its effect on increasing student achievement. This study can provide valuable information related to the success with going to a modified calendar.

The results of this study will be beneficial to students, parents, and school employees, as it will help clarify the positive and negative aspects of different school calendars. In our community, school B has just completed the first year on a modified calendar. Because Georgia public high schools are evaluated by Georgia High School Graduation Test scores, it is imperative to understand the effect the school calendar will have on student achievement as measured by the test. The results of the study will be useful to school B and the school system in determining if the modified calendar is more effective in increasing student achievement.

The study can possibly lead to further studies on student achievement at all levels, not just high school. It proves there is a need for more concrete evidence concerning improvement of student achievement with a modified calendar. The study implied that more statistical research on the schools that have chosen the modified calendar can be and needs to be done.

Enthusiasm to implement a new modified calendar may propel some schools like schools A and B into implementation before knowing all the facts. The evaluation of

existing studies and particularly those school systems that have changed to a modified calendar is imperative before decisions are made. This study concluded that any differences in achievement can not be attributed to the calendar alone.

Overall, this study may be useful in examining the effects of modified calendar over the past decade. Many schools and school systems are feeling pressure to join the year-round school trend. Student achievement based on standardized test scores is a major component of school improvement and sanctions. It is imperative that the best calendar be adopted to ensure student success on tests. Schools currently on a modified calendar can track their success and make comparisons to school A and school B.

School reform is an ongoing entity in current educational improvement planning. Many schools now have a modified calendar while others hold fast to a traditional calendar. This study, though inconclusive, could dispel several myths and open a dialogue for those exploring calendar options.

References

Abney, D. (2004, September 8). Reports: Extended school calendar a winner. *Rome News Tribune. pp. 3A.*

Alabama State Department of Education (2001). Retrieved August 12, 2004 from http://alsde.edu.

*Alternative Calendars: Extended learning and year-round programs final report by the working group on alternative calendars (1999).*Retrieved July 24, 2004 from University of Minnesota, College of Education and Human, Center for Applied Research and Educational Improvement Web site: http://education.umn.edu/CAREI/Reports_Archive/WG_AltCalendar.html.

Atwood, N. (1983). Integration evaluation reports: Appendix A. year-round schools sub studies, 1982-83. Publication No. 436, Part III. Los Angeles, CA: Research and Evaluation Branch, Los Angeles Unified School District. (Eric Document Reproduction Service No. ED 24143).

Ballinger, C. (1995, February) Update on year-round education in the United States. Paper presented at the annual conference of the National Association for Year-Round Education, San Diego, CA.

Ballinger, C. (1999, February). A bridge to better learning: Annual report to the association on the status of year-round education. Paper presented at the annual conference of the National Association for Year-Round Education, San Diego, CA.

Ballinger, C., Kirschenbaum, N. & Poinbeauf, R. (1987). The year-round school: Where learning never stops. Bloomington, IN: Phi Delta Kappa Educational Foundation,

Fastback #259.

Bradford, J. (1991). Year-Round schools: A national perspective. (ERIC Document Reproduction Service No. ED 343 259).

Bray, S., & Roellke, C. (1998). The evidence on year-round education. Kappa Delta Pi Record, 15 (4), 84-88.

Brekke, N. R. (1985). A cost analysis of year-round education in the Oxnard School District. Oxnard, CA: Oxnard School District. (ERIC Document Reproduction Service No. ED 272 973).

Bussard, B. (2002). *SummerMatters!!* Retrieved August 12, 2004 from http://www.summermatters.com/fallacies.htm.

Campbell, M. (1997) *Sample size tables for clinical studies, 2nd edition.* London, Edinburgh, Maldon, and Carlton: Blackwell Science 1997.

Chen, Z. (1993). Year-round education: High school student achievement and teacher/administrator attitudes. Unpublished doctoral dissertation, United States International University, San Diego, CA.

Cooper, H., Charlton, K., Greathouse, S., Lindsay, J., & Nye, B. (1996). The effects of summer vacation on achievement test scores: A narrative and meta-analytic review. Review of Educational Research, 66(3), 227-268. Denver Rocky Mountain News, August 2, 2000.

Cooper, H., Charlton, K., Valentine, J.C., & Muhlenbruck, L. (2000). Making the most of summer school: A meta-analytic and narrative review. Monograms of the Society for Research in Child Development, 65(1), 1-118. EJ 630 022.

Georgia State Department of Education (2004). Retrieved August 28, 2004 from

http://www.ga.osa.reportcard.org.

Gifford, B. (1987, July). Back on track: A campaign to recruit dropouts back into the Columbus public schools. Paper presented at the Annual National Meeting of the National School Public Relations Association, San Antonio, TX.

Glass, G. V. (1992). Policy considerations in conversion to year-round schools. Arizona State University, Tempe. (ERIC Document Reproduction Service No. ED 357 476).

Glines, D. (1987). Philosophical rationale for year-round education. Paper presented at the Annual Meeting for Year-Round Education, San Diego, CA. (ERIC Document Reproduction Service No. ED 368 075).

Gold, K. M. (2002). *School's in: The history of summer education is American public schools.* New York: Lang.

Greenfield, T. (1994). Year-round education: a case for change. The Educational Forum, 58, 252-262.

Heaberlin, B. (2001). The effects of year-round education on elementary school students. *Southeastern Association for Year-Round Education.* Retrieved November 1, 2002, from http://www.ga-yre.org.

Howell, V. T. (1988). An examination of year-round education: Pros and cons that challenge schooling in America. Reports – Evaluative/Feasibility (142). (ERIC Document Reproduction Service No. ED 298 602).

Huitt, W. (1995, September). The future and education. Lecture presented in PSY 702: Conditions of Learning at Valdosta State University, Valdosta, GA. http://www.valdosta.peachnet.edu/~whuitt/psy702/lectures/future.lec.

Kirkman, T. (2004). Tools for science. Retrieved September 10, 2004 from http://www.physics.csbsju.edu/cgi-bin/stats/Paired_t-test.

Kneese, C. C. (2000). The impact of year-round education on student learning: a study of six elementary schools. [Electronic version]. *ESR Spectrum,* n18 n1 p20-26. Retrieved January 17, 2002 from Ebscohost database in GALILEO: (ERIC Document Reproduction Service No. EJ606 428).

Mazzarella, J. A. (1984). Longer day, longer year: will they make a difference? *Principal 63,* (5).

McMillen, B. J. (2001). A statewide evaluation of academic achievement in year-round schools. [Electronic version]. *Journal of Educational Leadership, 95*(2). p67.

Merino, B. J. (1983). The impact of year-round schooling: A review. *Urban Education 18*(3), 298-316.

Morgan, C. (1993). In defense of the traditional calendar: A report to the syamore board of education.

Mutchler, S. E. (1993) Year-round education. *SEDL Insights* (2), p. 1-3, 5-6. Retrieved January 17 from Ebscohost database in Galileo. (ERIC Document Reproduction Service No. ED 636 466).

National Association for Year-Round Education (2001). Retrieved September 1, 2001 from http://www.nayre.com/about.html.

Naylor, C. (1995). *Do year-round schools improve student learning?* Retrieved October 29, 2002 from BCTF Research and Technology Division Web site. http://www.bctf.bc/education/yrs/StudentLearning.html.

Newland, C. (1998). Review of research presented to Auburn school board. Auburn

University, 1998.

O'Dell, S. C. (1997). Perceptions of year-round principals: The effect of year-round education in fulfilling the recommendations of the national commission on excellence in education and goals 2000. Unpublished doctoral dissertation, East Tennessee State University, Johnson City, TN.

Oxnard School District. (1990). Year-round education. Oxnard, CA: Author. (ERIC Document Reproduction Service No. ED 372 470.

Rasmussen, K. (2000). Year-round education, time to learn, time to grow. [Electronic Version]. *Education Update, 42*(2). p6.

Ritter, C. (1992). The effects of year-round school calendar on gifted and talented students. Unpublished master's thesis, Sam Houston State University, Houston, TX. (ERIC Document Reproduction Service No. ED 350 739).

Roby, D. (1992). A comparison of reading and math achievement of students attending a nine-month traditional and year-round school. Unpublished doctoral dissertation, University of Dayton, Dayton, OH.

Saucedo, R. (1996, June). Innovative restructuring through year-round education. Paper presented at the annual conference of the National Association for Year-Round Education, San Diego, CA.

Serifs, D. (1990). Year round education: A closer look. (ERIC Document Reproduction Service No. ED 356555).

Severson, L. K. (1997). An explanatory case study in change: year-round education. Unpublished doctoral dissertation, Oklahoma State University, Stillwater, OK.

SISA: Simple interactive statistical analysis (2004). Retrieved September 20, 2004 from

http://home.clara.net/sisa/t-thlp.htm.

Six, L. (1993). A review of recent studies relating to the achievement of students enrolled in year-round education programs. San Diego, CA: National Association for Year-Round Education.

Weaver, T. (1992). Year-round education. Eugene, OR: ERIC Clearinghouse on Educational Management. (ERIC Document Reproduction Service No. ED 342 107).

White, W. D. (1985, January). Initiating and administering a year-round program in your secondary school. Paper presented at the annual meeting of the National Council of Year-Round Education, Los Angeles, CA.

White, W. D. (1987, February). Effects of the year-round calendar on school attendance. Paper presented at the annual meeting of the National Association for Year-Round Education, San Diego, GA.

Wintre, M. G. (1986). Challenging the Assumption of Generalized Academic Losses over Summer. Journal of educational research, York University, May/June1986, 79 (5).

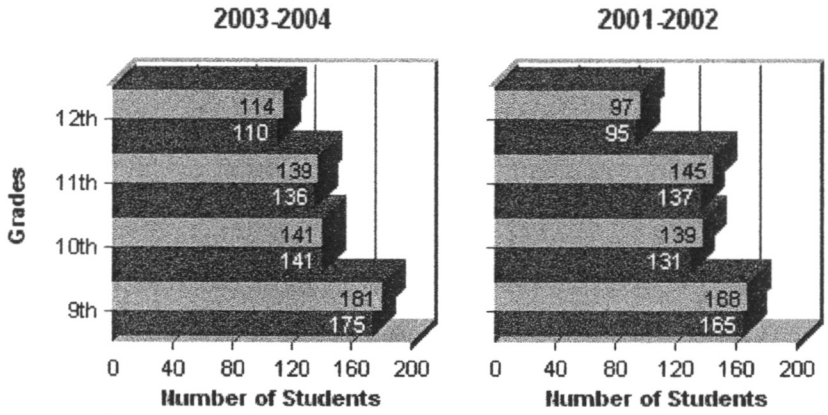
Yates, K.O. (2001). Director of Pediatric Neuropsychological at Children's Hospital in Columbus, OH. Letter to Worthington School Board.

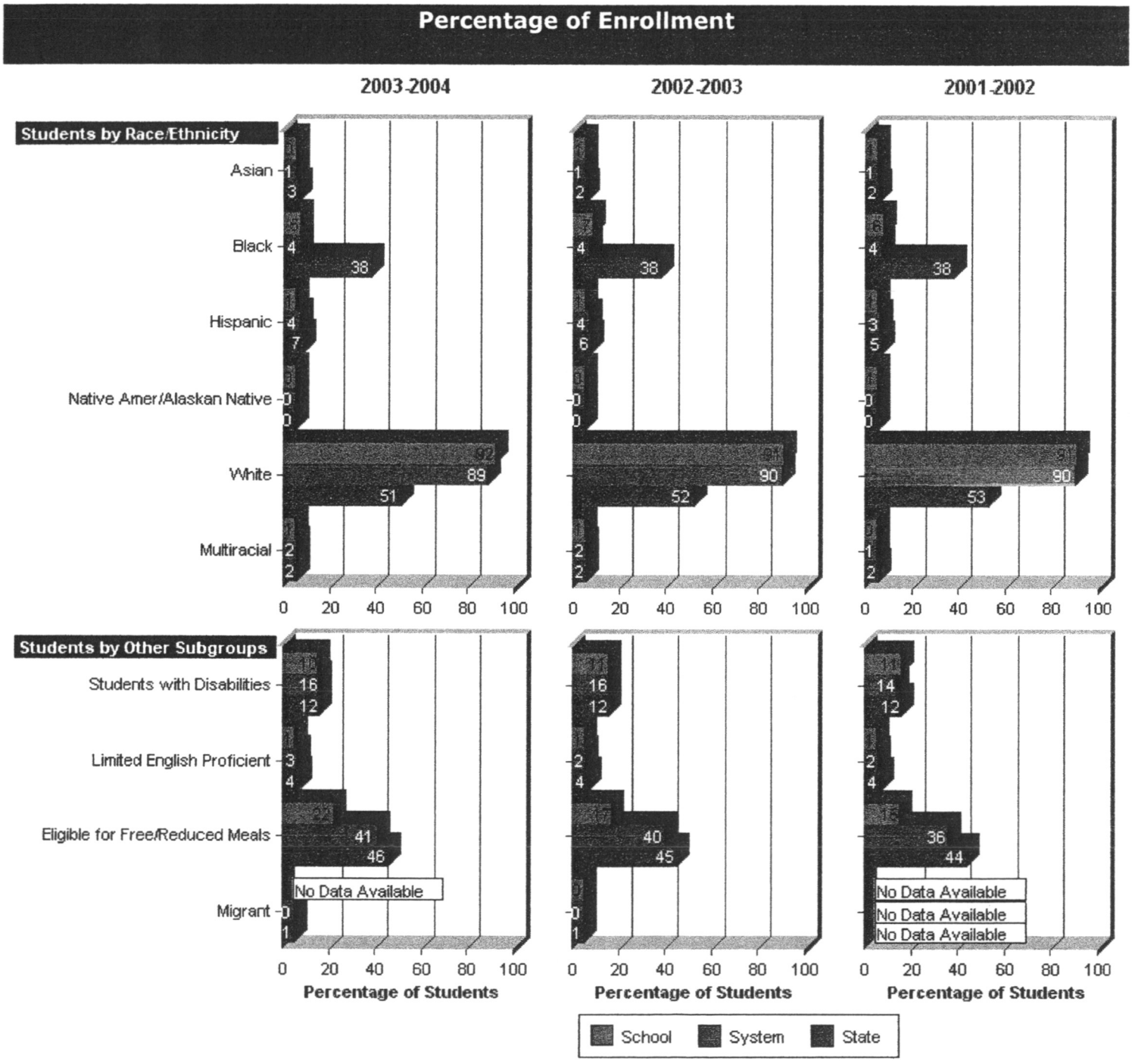
Appendices

Appendix A

High School B
Grade Range: 9-12
Enrollment : 575

Fall and Spring Enrollment for Three Academic Years

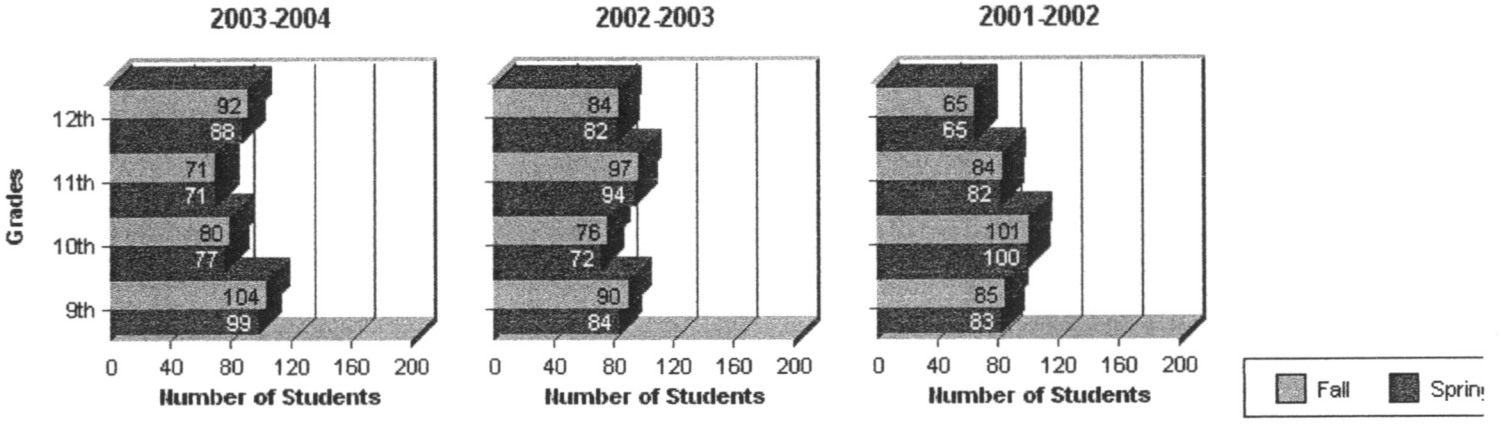


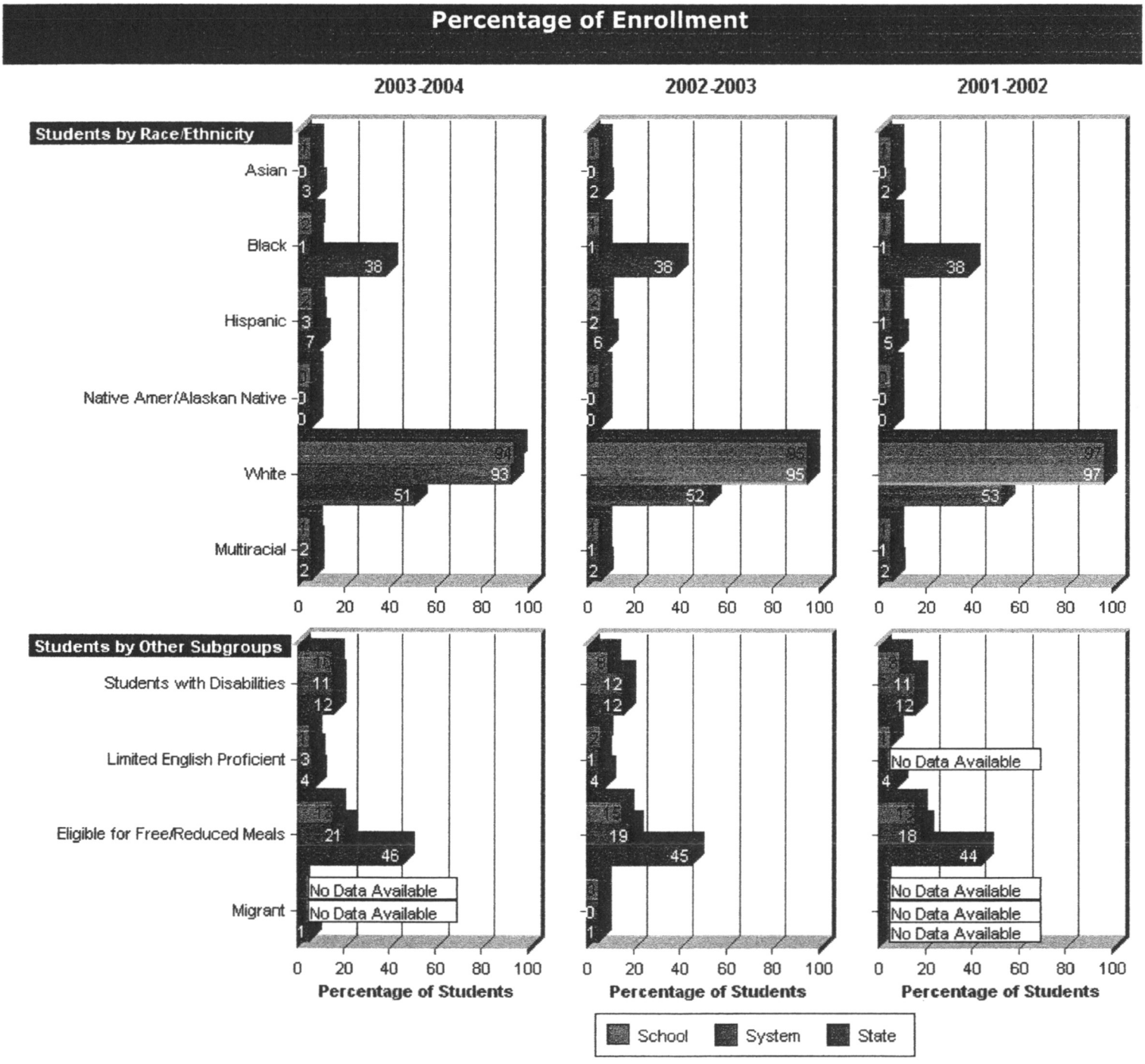

Percentage of Enrollment
2003-2004
2002-2003
2001-2002
Students by Race/Ethnicity
Asian
Black
Hispanic
Native Amer/Alaskan Native
White
Multiracial
1
3
4
38
4
7
0
0
92
89
51
2
2
1
2
4
38
4
6
0
0
91
90
52
2
2
1
2
4
38
3
5
0
0
91
90
53
1
2
0 20 40 60 80 100
Students by Other Subgroups
Students with Disabilities
Limited English Proficient
Eligible for Free/Reduced Meals
Migrant
16
12
3
4
41
46
No Data Available
0
1
16
12
2
4
40
45
0
1
14
12
2
4
36
44
No Data Available
No Data Available
No Data Available
0 20 40 60 80 100
Percentage of Students
Percentage of Students
Percentage of Students
School
System
State

Appendix B

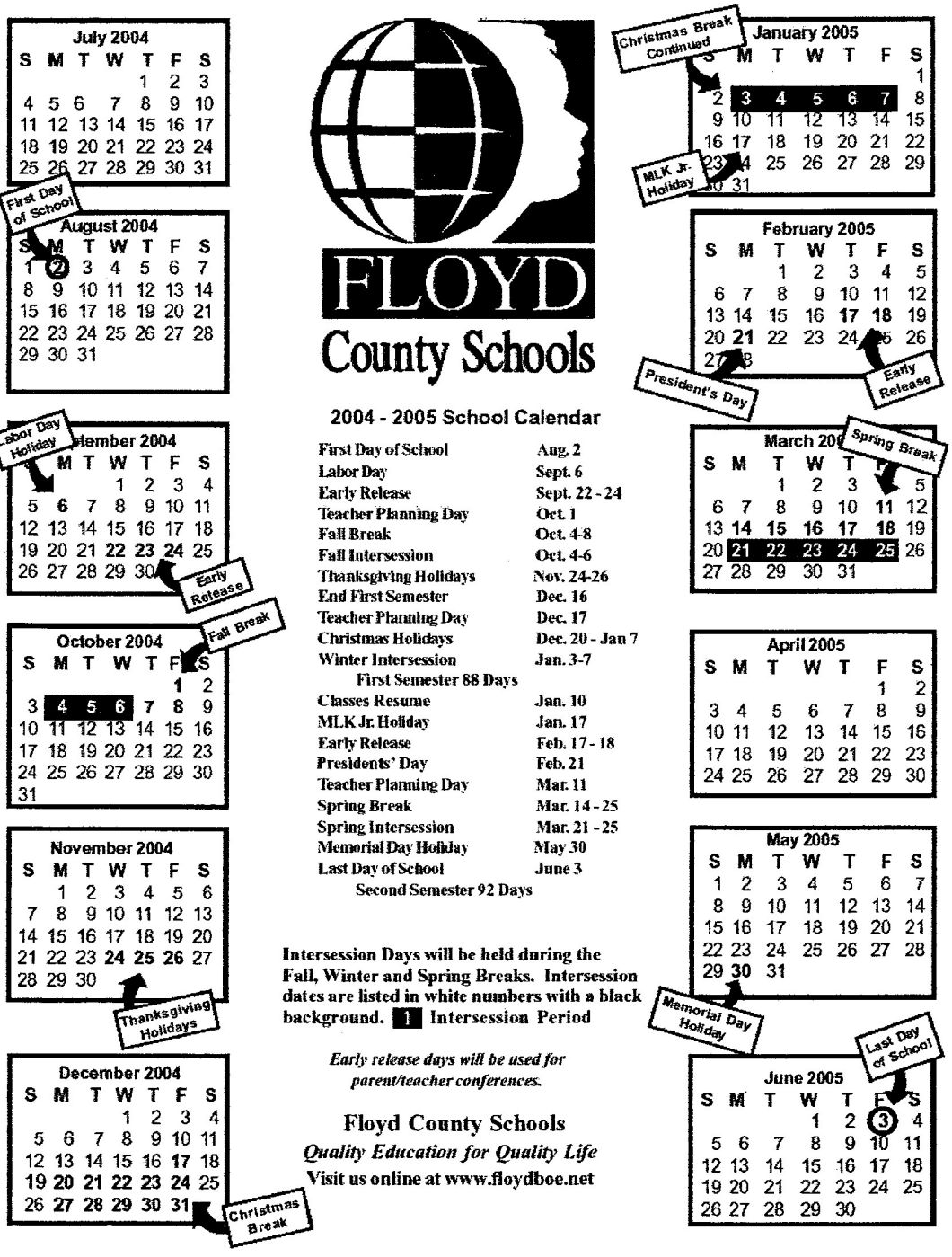
High School A
Grade Range: 9-12
Enrollment: 347

Fall and Spring Enrollment for Three Academic Years



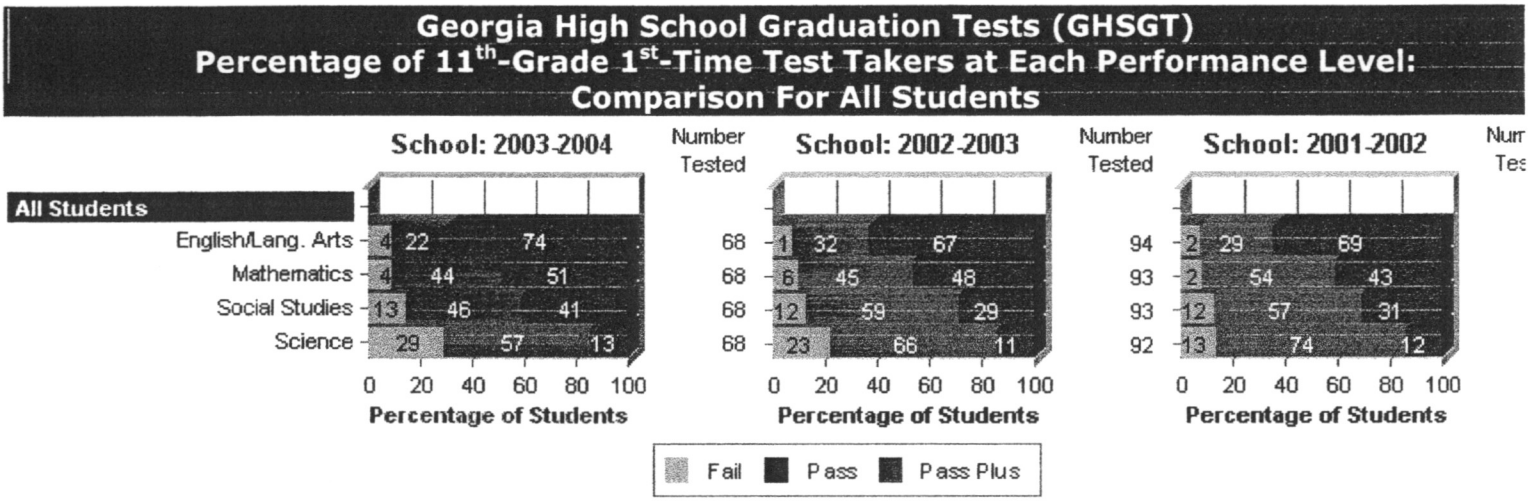

Percentage of Enrollment
2003-2004
2002-2003
2001-2002
Students by Race/Ethnicity
Asian
Black
Hispanic
Native Amer/Alaskan Native
White
Multiracial
0 3
1 38
3 7
0 0
94 93 51
2 2
0 2
1 38
2 6
0 0
95 95 52
1 2
0 2
1 38
1 5
0 0
97 97 53
1 2
0 20 40 60 80 100
Students by Other Subgroups
Students with Disabilities
Limited English Proficient
Eligible for Free/Reduced Meals
Migrant
11 12
3 4
21 46
No Data Available
No Data Available
1
12 12
1 4
19 45
0 1
11 12
No Data Available
4
18 44
No Data Available
No Data Available
No Data Available
Percentage of Students
School
System
State

Appendix C

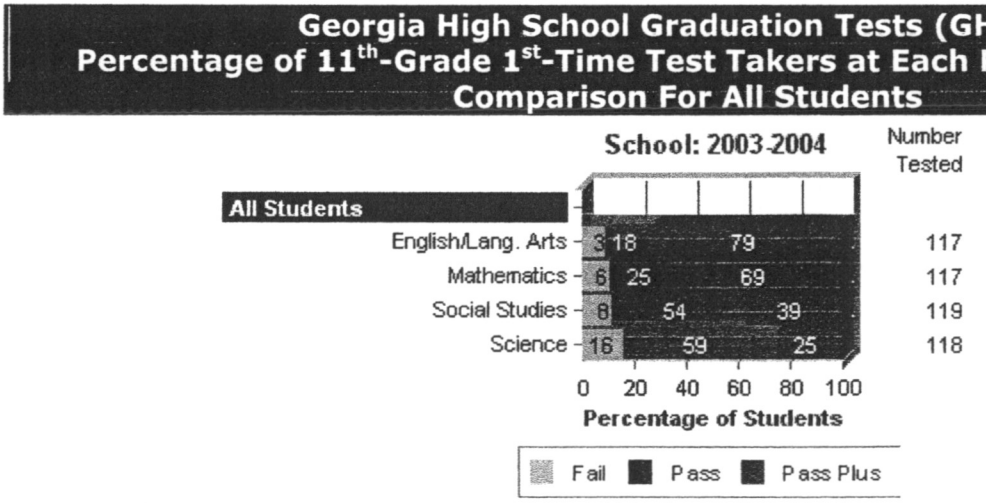

July 2004
S M T W T F S
1 2 3
4 5 6 7 8 9 10
11 12 13 14 15 16 17
18 19 20 21 22 23 24
25 26 27 28 29 30 31
First Day of School
August 2004
S M T W T F S
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 31
Labor Day Holiday
September 2004
S M T W T F S
1 2 3 4
5 6 7 8 9 10 11
12 13 14 15 16 17 18
19 20 21 22 23 24 25
26 27 28 29 30
Early Release
Fall Break
October 2004
S M T W T F S
1 2
3 4 5 6 7 8 9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30
31
November 2004
S M T W T F S
1 2 3 4 5 6
7 8 9 10 11 12 13
14 15 16 17 18 19 20
21 22 23 24 25 26 27
28 29 30
Thanksgiving Holidays
December 2004
S M T W T F S
1 2 3 4
5 6 7 8 9 10 11
12 13 14 15 16 17 18
19 20 21 22 23 24 25
26 27 28 29 30 31
Christmas Break
FLOYD
County Schools
2004 - 2005 School Calendar
First Day of School Aug. 2
Labor Day Sept. 6
Early Release Sept. 22 - 24
Teacher Planning Day Oct. 1
Fall Break Oct. 4-8
Fall Intersession Oct. 4-6
Thanksgiving Holidays Nov. 24-26
End First Semester Dec. 16
Teacher Planning Day Dec. 17
Christmas Holidays Dec. 20 - Jan 7
Winter Intersession Jan. 3-7
First Semester 88 Days
Classes Resume Jan. 10
MLK Jr. Holiday Jan. 17
Early Release Feb. 17 - 18
Presidents' Day Feb. 21
Teacher Planning Day Mar. 11
Spring Break Mar. 14 - 25
Spring Intersession Mar. 21 - 25
Memorial Day Holiday May 30
Last Day of School June 3
Second Semester 92 Days
Intersession Days will be held during the Fall, Winter and Spring Breaks. Intersession dates are listed in white numbers with a black background. 1 Intersession Period
Early release days will be used for parent/teacher conferences.
Floyd County Schools
Quality Education for Quality Life
Visit us online at www.floydboe.net
Christmas Break Continued
January 2005
S M T W T F S
1
2 3 4 5 6 7 8
9 10 11 12 13 14 15
16 17 18 19 20 21 22
23 24 25 26 27 28 29
30 31
MLK Jr. Holiday
February 2005
S M T W T F S
1 2 3 4 5
6 7 8 9 10 11 12
13 14 15 16 17 18 19
20 21 22 23 24 25 26
27 28
President's Day
Early Release
March 2005
S M T W T F S
1 2 3 4 5
6 7 8 9 10 11 12
13 14 15 16 17 18 19
20 21 22 23 24 25 26
27 28 29 30 31
Spring Break
April 2005
S M T W T F S
1 2
3 4 5 6 7 8 9
10 11 12 13 14 15 16
17 18 19 20 21 22 23
24 25 26 27 28 29 30
May 2005
S M T W T F S
1 2 3 4 5 6 7
8 9 10 11 12 13 14
15 16 17 18 19 20 21
22 23 24 25 26 27 28
29 30 31
Memorial Day Holiday
June 2005
S M T W T F S
1 2 3 4
5 6 7 8 9 10 11
12 13 14 15 16 17 18
19 20 21 22 23 24 25
26 27 28 29 30
Last Day of School

Appendix D

High School A
Grade Range: 9-12
Enrollment: 347



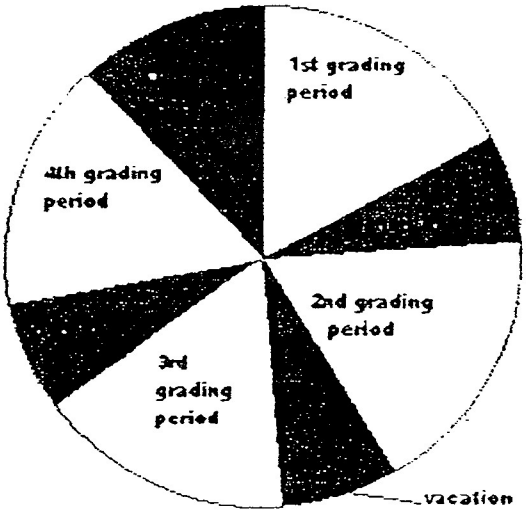
High School B
Grade Range: 9-12
Enrollment: 575



Appendix E

Comparison of the Calendars

Modified Calendar



Traditional Calendar